



International Chamber of Commerce

The world business organization

ICC Comments on the Security, Stability and Resiliency (SSR) of the DNS Review Team Set of Issues

The International Chamber of Commerce (ICC)'s Commission on E-Business, IT and Telecoms (EBIT²) is pleased to provide these responsive comments to ICANN's SSR Review Team's request for comments on an initial set of issues. ICC members include companies and associations from across sectors and geographies, and ICC is a member of the ICANN Generic Name Supporting Organization (GNSO) Business Constituency. The technical coordination of the Internet is of critical importance to all of our members given the amount of their business that is conducted over it.

ICC welcomes the work of the SSR Review Team (SSRT), as they bring important attention and analysis of issues concerning the overall security of the Domain Name System (DNS). The SSR RT will play an important role in reviewing ICANN's Plan for Enhancing Internet Security, Stability and Resiliency, and its preparedness to deal with actual and potential challenges and threats. This should include: reviewing the areas that are in the scope of ICANN's limited technical mission; recommending whether the rules/criteria for what should be done need to be modified; identifying any specific gaps and overlaps with existing organizations that have already related responsibilities; and putting forward recommendations for how they can be addressed.

As the Internet continues to evolve into the global platform for communications, transactions and business, it is critical that the secure, stable and consistent functioning and operations of the DNS remain a top priority for the ICANN community.

1. Existing analysis of the impact of ICANN's responsibilities, as stated in the Bylaws and related documents, on the Stability, Security, and Resilience of the DNS.

[See comment on issue 2 below.]

2. Opinions on the limitations of the scope of ICANN's responsibilities, as stated in the Bylaws and related documents, on the Stability, Security, and Resilience of the DNS.

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ICC supports ICANN's role in "Preserving and enhancing the operational stability, reliability, security, and global interoperability of the Internet" as outlined in the ICANN By-Laws, Article 1 Section 2 on Core Values.

We are also mindful, however, of the limitations of ICANN's scope of responsibilities. ICANN's role in any of its current or future SSR initiatives should be a coordinating role, consistent with its charter.

3. Recent opinion on the DNS CERT proposal and on the need to coordinate/support detection and management of attacks/incidents to DNS

SSR initiatives merit serious consideration and ICC encourages ICANN to engage in further consultation with operators of the DNS, businesses and all members of the ICANN community to further develop such initiatives.

The nature of the security threats to the DNS must be carefully articulated and understood in considering any initiative. It is important that the security threats identified in whatever SSR initiative, including DNS-CERT, fall within ICANN's ambit. Certain types of malicious attacks may fall outside of ICANN's mission and it is important that there be clarity on this point. As stated above, ICANN's role in any of these initiatives should be consistent with its charter and limited to its technical coordination, non-operational role.

With regard to the DNS-CERT proposal itself, there are important issues concerning sensitive data sharing and liability that must be addressed to encourage operators to participate in any such structure. There are a number of organizations that address these concerns and that focus on specific aspects of DNS security. ICANN should consult and facilitate coordination across these organizations, in addition to DNS operators, business and the community to avoid duplication of efforts and resulting diminished value.

The decentralized model of the DNS requires continued coordination among all actors in the ICANN community to address security and stability concerns. An organizational and functional gap analysis identifying the specific threats that are not otherwise addressed, in whole or in part, by these organizations and collaborative efforts is a necessary first step in developing SSR and DNS-CERT initiatives that will materially enhance the security, stability and resiliency of the Internet.

4. Experiences, difficulties, unexpected advantages, and lessons learned in the implementation of DNSSEC.

ICC believes that DNS security will benefit from a top-to-bottom deployment of DNS Security Extensions (DNSSEC), a suite of software specifications for digitally signing certain DNS information. DNSSEC's data origin authentication and data integrity features can thwart cache poisoning attacks. While the DNS community is exploring other security options, at this time no other solution has been fully developed, nor provides the same protections offered by DNSSEC in response to this particular vulnerability.

As each new level in the DNS hierarchy is DNSSEC-enabled, more trust can be placed in the system, and the set of transactions between validating recursive name servers and those systems are protected.

It should be recognized that DNSSEC requires more maintenance functions and associated processing resources by domain owners, and introduces more complexity to the DNS. If not appropriately managed, this new overhead can result in negative impacts to security and stability of the system.

5. Sources of risk analysis for the DNS, as well as contingency planning, business continuity planning (BCP) and related work for the DNS.

We believe increased security is necessary in light of ongoing threats to the Internet's infrastructure. These threats include the enhanced DNS vulnerability publicized by Dan Kaminsky and other Internet security researchers in the summer of 2008. As these experts noted, computer servers are particularly vulnerable to a DNS attack called "cache-poisoning" that redirects unsuspecting Internet users to malicious sites or hijacks their email. The deployment of DNSSEC is helping to mitigate the risk to the DNS from this particular vulnerability by adding data integrity capabilities to the system.

6. Original solutions proposed to increase the Stability, Security, and Resilience of the DNS at the protocol level, including the design of the Root Server system.

The current model seems to work well and has added observable resilience and scale to the system.

7. Processes used by DNS users and operators to guarantee that the Risk Analysis related to the DNS is comprehensive and updated.

8. Analysis of the relationships of ICANN with “contracted parties” (registries and registrars) as well as others (ccTLDs not bound contractually to ICANN, Root Server Operators, etc.)

The relationship between ICANN and its contracted parties is an important component of ensuring the security, stability and resiliency of the Internet. ICANN was founded on the premise that contracts with relevant parties form the basis of ‘self governance’ and that all affected stakeholders must work together in a consensus-based, bottom-up policy process. While contractual compliance is covered in ICANN’s existing SSR plan, ICANN should increase its efforts to ensure it meets its responsibilities for enforcement and compliance of the contracted arrangements.

9. Involvement, present or possible, of non-ICANN entities in the design, implementation, operation, and evolution of the DNS, in its potential impact on the Stability, Security, and Resilience of the DNS.

ICC strongly supports the private sector-led, multistakeholder and bottom-up policy development model that has made ICANN and its partners successful thus far in ensuring the continued security, stability, and resiliency of the DNS. ICC is also cognizant of pressures by some governments and intergovernmental entities to play a larger role in the design, implementation, and evolution of the DNS. ICC continues to support an advisory role in these areas for governments within current ICANN structures, and believes that any alternative arrangement would stifle innovation, and result in overly prescriptive and constrained working models.

10. Solutions/Proposals on Root Server Governance, including transparency, accountability, security/performance measurements, policies, accessibility and the opportunity to have more RS operators

Ensuring adequate accountability and transparency in Root Server Governance is important. ICC supports the SSR’s work to identify what mechanisms might enhance such accountability and transparency. However, a gap analysis must first highlight what issues exist and might be better served by evolving the current Root Server Governance models.

11. Studies or informed opinion related to large-scale risks that can alter the environment of the DNS, and indicators, metrics or harbingers of such risks, including models/frameworks to measure Security, Stability and Resilience of the DNS as a system

ICC notes the work of the SSAC and the Root Scaling Report. These should be considered as part of the compendium of information on large-scale risks to the DNS.

The International Chamber of Commerce (ICC)

ICC is the world business organization, a representative body that speaks with authority on behalf of enterprises from all sectors in every part of the world.

The fundamental mission of ICC is to promote trade and investment across frontiers and help business corporations meet the challenges and opportunities of globalization. Its conviction that trade is a powerful force for peace and prosperity dates from the organization's origins early in the last century. The small group of far-sighted business leaders who founded ICC called themselves "the merchants of peace".

ICC has three main activities: rules-setting, dispute resolution and policy. Because its member companies and associations are themselves engaged in international business, ICC has unrivalled authority in making rules that govern the conduct of business across borders. Although these rules are voluntary, they are observed in countless thousands of transactions every day and have become part of the fabric of international trade.

ICC also provides essential services, foremost among them the ICC International Court of Arbitration, the world's leading arbitral institution. Another service is the World Chambers Federation, ICC's worldwide network of chambers of commerce, fostering interaction and exchange of chamber best practice.

Business leaders and experts drawn from the ICC membership establish the business stance on broad issues of trade and investment policy as well as on vital technical and sectoral subjects. These include financial services, information technologies, telecommunications, marketing ethics, the environment, transportation, competition law and intellectual property, among others.

ICC enjoys a close working relationship with the United Nations and other intergovernmental organizations, including the World Trade Organization and the G8.

ICC was founded in 1919. Today it groups hundreds of thousands of member companies and associations from over 120 countries. National committees work with their members to address the concerns of business in their countries and convey to their governments the business views formulated by ICC.

ICC Commission on E-Business, IT and Telecoms (EBITT)

Business leaders and experts drawn from the ICC membership establish the key business positions, policies and practices on e-business, information technologies and telecommunications through the EBITT Commission.

With members who are users and providers of information technology and electronic services from both developed and developing countries, ICC provides the ideal platform to develop global voluntary rules and best practices for these areas. Dedicated to the expansion of cross-border trade, ICC champions liberalization of telecoms and development of infrastructures that support global online trade.

ICC has also led and coordinated the input of business around the world to the World Summit on the Information Society, Geneva 2003, Tunis 2005, and continues this effort in the activities established in the Tunis Agenda through its initiative, Business Action to Support the Information Society (BASIS <http://www.iccwbo.org/basis>).